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ABSTRACT

A study addressed the questions of what teachers and students do with background-concept questions in historical study, and how these questions are connected (or not) to the teaching of foreground concepts. If teachers borrow and teach reading-language arts research strategies (strategic knowledge) and integrate them into historical study, does this matter to students' historical concept- and strategic-knowledge development, and if so, how? The study addressed these questions by exploring them in the context of two fourth-grade classrooms where students were studying state history. Teachers were interviewed informally before the unit to obtain a sense of the unit's direction and time frame, and throughout the unit as an effort to understand what they were doing and why on a lesson-to-lesson basis. The growth of social studies concept knowledge, and especially strategic knowledge, suggests considerable promise for future efforts to bring reading, language arts, and conceptual domains such as history together in an integrated curriculum. Contains 4 figures, 3 tables of data, and 18 references. (BT)

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Concept- and Strategic-Knowledge Development in Historical Study: A Comparative Exploration in Two Fourth-Grade Classrooms

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Concept- and Strategic-Knowledge Development in Historical Study:
A Comparative Exploration in Two Fourth-Grade Classrooms

It has been suggested that developing conceptual understandings in students who study history is important in moving them away from rote memorization of historical facts (Brophy, 1990; National Center for History in the Schools, 1994). The argument goes that the common practice of asking students to memorize past events soon results in forgetting. Proponents of teaching for understanding in social studies (e.g., Brophy, 1990) maintain that, if students are to understand and remember what they have studied, they need to deal with, among other things, meatier ideas such as the concepts which organize and structure facts.

In history, if concepts are addressed, the ones usually *foregrounded* are such things as culture, democracy, communism, capitalism, change, continuity, and the like. However, because they relate to learning to think historically, another group of concepts is equally important—those involving evidence, assertion, explanation, source validity and reliability, and so forth. These concepts often are ignored or *backgrounded* in historical study (Barton, 1996).

Despite the centrality of these foreground and background concepts to the development of historical understanding and thinking, with a few exceptions (e.g., Barton, 1996; Seixas, 1994; VanSledright & Kelly, in press; Wineburg, 1991), little attention has been paid by researchers in North America to how historical concepts are taught (if they are) and what sense students make of them. This is especially true at the elementary level. Researchers in Great Britain (Dickinson & Lee, 1984; Ashby & Lee, 1996) have done far more work in this area.

What makes the issue of concept understanding in historical study doubly important are reports from some analysts (e.g., McGowan et al., 1996; Tunnell & Ammon, 1996) who note the increasing use of multiple readings (biographies, historical fiction, short informational books, *Cobblestone* texts) as sources of historical information for students engaged in researching the past. By some accounts, even students as young as fifth grade employ these sources heavily (e.g., VanSledright & Kelly, in press). Using multiple sources for research tasks can raise serious questions about background concepts such as

the nature of evidence, reliability and validity of sources, etc., because sources sometimes present conflicting evidence and different points of view. Using multiple sources for research also involves questions about strategic knowledge at children's disposal such as how they search out sources, assess and corroborate historical of claims, judge an author's point of view, and so forth.

What do teachers and students do with these background-concept questions? How are they connected (or not) to the teaching of foreground concepts? If teachers borrow and teach reading-language arts research strategies (strategic knowledge) and integrate them into historical study, does this matter to students' historical concept- and strategic-knowledge development, and if so, how? This paper reports a study that attempted to address these questions by exploring them in the context of two fourth-grade classrooms where students were studying state history. The two classroom settings were purposefully chosen to provide contrast (Stake, 1995): the first was selected because the teacher said she would stress (foreground) concept development and strategic knowledge of historical research (integrated from language arts), and the second because the teacher also engaged her students in historical research but indicated that she did not push concept development or emphasize research strategy knowledge per se. The contrast provided an avenue to compare what students learned with regard to the different influences of the teachers.

Method

Settings

The classroom research settings were located in different schools but within the same large Maryland school district. As a result, both classrooms operated from the same overall curriculum policies and requirements. In fourth grade, teachers are required to teach about the history of Maryland, beginning with Native Americans in the area (typically the first social studies unit taught in the fall), and move chronologically through the Civil War period and sometimes to the twentieth century if time allowed. The social studies curriculum guide calls for students to learn the chronology of events affecting Maryland and, generally, come away with the ability to recall the facts, event, names, and details of its history. Both teachers honored these curricular goals.

Generally speaking, the school district can be characterized by three types of school settings. The first are schools that are located close to a large urban area, whose political border adjoins the school district. For all intents and purposes, these schools are part of the urban landscape. They draw very diverse student populations. Many students, often the dominant population, are minorities and poor first-generation immigrants, speaking only their native languages. The second cluster of schools are located farther away from the center city in what are traditionally referred to as the suburbs. Students in these schools also are diverse, but more middle and upper-middle class. For these schools, it is not uncommon for the mix of students to be approximately 50% white, 25% African American, 15% Hispanic, and 10% Asian American. In some of these schools, there also are first-generation immigrants. Schools of the third type in this district are located in very recent suburban subdivisions surrounded by farmland, distantly located from the center city. Their populations are typically middle and upper-middle class and predominantly white. The study of the first classroom mentioned was located in a school that looked like this latter type. The other classroom setting and school fit the characterization of the second type.

Participants

Both teachers were veterans, having taught over 25 years between them. Both enjoyed teaching Maryland history and thought of social studies as one of their favorite subjects. The teacher from the first classroom mentioned, Pamela Derson (all identifying names are pseudonyms), taught 26 students of whom 25 were white, one was African American, 11 were males, and 15 were females. In the second classroom, the teacher, Judy Costello, taught 27 students, 10 males and 17 females. Ten were white, nine were African American, five were Hispanic, and three were Asian American.

The teachers acted as informants about their plans for their classes, the way they would teach the Native Americans unit (the focus of the documentation process), their goals and purposes, and the students in their classes (e.g., reading levels, ethnic background). Each teacher was asked to help in the selection of students that could act as informants for comparative data to be generated about their perspectives on what they learned from experiences during the unit. Derson was asked to select six students in three pairs that represented generally average readers, with one pair just slightly above grade

level, one at grade level, and one pair just slightly below level, a male and female in each pair. Derson selected Andy, Jason, and Steve, the males, and Karen, Stella, and Terri, the females. As it turned out, Jason, and Terri were just above level as readers and the other four were all at level, a consequence of our inability to get all the parents to consent to their child's participation.

To match the reading characteristics of the informants, we (my research assistant and I) adjusted our criteria to align with Derson's selection, and then requested that Costello choose like informants from her class, which she did without difficulty. Costello selected Zani (Hispanic), Gina (Asian American), and Shantelle (African American), the females, and Joel, John, and Mack (all three were white), the males. The above-level readers were Gina and John. Unfortunately, at the midpoint of the year, Gina and her family moved out of the school district and we lost her as an informant after the first interview.

Procedures

Observations. To document how the teachers taught the Native Americans In Maryland unit, we observed in their classes for the duration of their treatment of that unit. Detailed fieldnotes were compiled of daily classroom events, documents used in teaching and student assignment samples were collected, books students used for research were noted and recorded, and descriptions of students classroom activities were generated. Derson taught social studies for a hour to an hour and a half on average about four days a week. The unit was dealt with in 18 lessons over approximately four weeks. Costello taught social studies on average two days per week for an hour and a half each time usually in the afternoon, often alternating the days with science. For the Native Americans unit, Costello taught 12 lessons across almost five weeks.

Interviews. The teachers were interviewed informally before the unit to obtain a sense of the unit's direction and time frame, and throughout the unit as an effort to understand what they were doing and why on a lesson-to-lesson basis. Often after they taught a lesson, we would ask questions about the conduct of the lesson, what they believed was its goal, and how they thought students were doing. Following the unit, both teachers also were interviewed formally using a structured, but open-ended protocol. We asked them to talk about their perceptions of the six students we interviewed (an attempt to better help us understand the students); how the Native Americans unit was different from and similar to

other social studies units; what historical concepts they were attempting to teach and why, what they thought was the purpose for teaching history and doing historical research, and how they felt about efforts at integrating school subjects such as language arts, reading, and social studies (an important pedagogical intention expressed by Derson).

The formal interviews took place after we had interviewed their six students directly following the unit and had transcribed the students' responses. They were given copies of the transcripts and asked to read them prior to the interview. Therefore, a second portion of the formal interview was used to explore their perceptions of their six students' responses to our initial student interview protocol. Our questions to the teachers were used to test our interpretations of the student data against the interpretations of each teacher as a form of data triangulation and member checking. We tailored the questions to fit the responses of each group of six students. The questions explored their view of patterns within the student data, and how students dealt with issues or concepts such as presentism and historical context, causation, reliability and validity of evidence, and Native cultures.

Students were formally interviewed twice, once directly after the unit (early November for Derson's students and late October for Costello's students) and again at the very end of the school year (June) as an attempt to assess how students ideas changed across the span of time from the October/November interviews to June. The interview questions were structured but remained openended. We encouraged students to tell as much as they could in response to our questions. We asked a number of probing questions in an effort to exhaust students' knowledge and understanding about what we were asking.

As a documentation study of students' conceptual and strategic knowledge growth and attitude development, the interview protocols were structured around four general categories: (a) foreground conceptual knowledge, (b) background conceptual knowledge, (c) knowledge of research procedures (or strategic knowledge), and (d) attitudes about and interest in doing research. The concepts were derived from conversations with the teachers concerning the big ideas they were stressing in the unit, and through discussions between ourselves as researchers about the teachers' big ideas and what we knew about important historical concepts. These conversations and discussions were used as a method of

delineating and refining the concepts that would become apart of the student interview protocols. Here, we describe more about how the concepts, categories, and questions evolved.

Unlike the natural sciences, history is a loosely-structured discipline that lacks well-defined and clearly-demarcated concepts, principles, and laws. Nonetheless, conceptual knowledge can be roughly grouped into two categories—what we are calling for our purposes here "foreground" and "background." Knowledge of research procedures refers to strategic knowledge (e.g., searching to locate information, reading, taking notes, writing reports, synthesizing information, using sources, handling information conflicts). We explain attitudes about and interest in doing research below.

By foreground conceptual knowledge, we are referring to knowledge of those concepts that historians use to anchor their written work and structure their explanations of past events. Examples would include cultural change; political, economic, and religious structures (e.g., democracy, capitalism, pantheism); historical context; causation; cultural artifacts; human agency; and the like. We use the term "foreground" here as a means of representing the relationship of these types of concepts to (a) how they appear prominently in the written histories of the past and (b) what students were expected to learn as the primary focus of their encounter with the study of Native Americans, according to the teachers and, in part, the curriculum objectives. For example, students in both classes were asked to research Eastern Woodlands tribes indigenous to Maryland in an effort to understand the historical context of their cultures, their tribal systems, customs, religion, and how these things changed over time as they encountered European explorers and colonizers. Studying and attempting to understand these concepts and the details and facts that gave them substance was in the "foreground" of school district curriculum objectives, the primary target of classroom instruction and student research activity, and in the "foreground" of the concepts students read about in the sources they explored. In each class, however, the stress placed on different foreground concepts varied somewhat. In constructing the interview protocols, we varied the questions slightly to more adequately fit the different classroom contexts. We did not ask questions about foreground concepts in the year-end interviews, choosing instead to focus our attention on background concepts, knowledge of research procedures, and attitudes about doing research, understandings that could develop and possibly change across the school year regardless of

social studies unit. Figure 1 depicts the foreground concepts we explored with students in each class by question.

[insert Figure 1 about here]

Background conceptual knowledge refers to knowledge of those concepts that inevitably arise in the act of doing historical research. These concepts include such things as evidence, assertion, explanation, hypothesis, validity and reliability, and perspective taking (sometimes called empathy). The boundaries separating these concepts from their foreground counterparts are fluid and fuzzy. We use the term "background" first as a method of noting the role they play in doing history: They usually arise as a consequence of research practice and are epistemic in nature. As historians (and students) "do" historical research, they operate on implicit assumptions about evidence, its relationship to the validity and reliability of assertions, and the role sources play in the process. These assumptions are seldom discussed in the history texts historians write. Second, we use the term background also to describe the role these concepts played in the classroom. That is, students in both classrooms received virtually no explicit instruction on how to understand these concepts as they went about scouring sources, looking for information on Native Americans. If, for example, a student encountered conflicting information on the Piscataway Indian tribe, raising questions about the validity and reliability of the sources she was using (a frequent problem in doing historical research), the student lacked knowledge about these concepts, had difficulty with a method for sorting out the conflicting information, received little instruction about the concepts or what do with the conflict, and was left to rely on her own implicit assumptions about these concepts and their interrelationships. Conceptual knowledge surrounding the act of doing research was backgrounded in these classrooms, for the most part, because other types of conceptual knowledge (customs, language, religion, structure, change) were foregrounded and targeted for study and learning. Figure 2 depicts the background concepts we asked students about. Questions 1.X refer to items in the first protocol and questions 2.X refer to items in the second protocol.

[insert Figure 2 about here]

Strategic knowledge about conducting research was the focus of a third cluster of questions that encompassed both the first and second protocols. The types of strategic knowledge students were asked

about included: general knowledge of research procedures, finding information in texts, handling conflicting information, and strategies for using text aids (indexes, tables of contents). Questions that asked about these forms of knowledge were identical for both groups of six students. Figure 3 depicts the types of knowledge asked about by question. Again, questions 1.X and 2.X refer to items in the first and second protocols respectively.

[insert Figure 3 about here)

Figure 4 shows the questions asked in both classes that were focused around attitudes and perceptions students were developing about doing research. We questioned the students about their view of the importance of doing research, its purposes, whether they liked the research process, and how they thought of themselves as a researchers.

[insert Figure 4 about here]

Analysis. In a rotation cycle, both researchers (the author and the research assistant) observed in each classroom on a regular basis and compiled detailed fieldnotes, allowing for the sharing of interpretations of classroom events and teacher data as a reliability check. Fieldnotes, documents, and formal and informal teacher interview data were studied by each researcher independently. We met periodically during the data collection phase and afterward to compare our notes, analytic memos, and general perceptions of what we thought went on in the classrooms and with regard to the teachers' purposes and approaches. We used fieldnotes and teacher-interview data to test and triangulate our understandings (Stake, 1995). We were in general agreement about our perceptions of each classroom (the few, minor interpretive disagreements were resolved by working out common understandings using collected data as an arbiter). The descriptions of the teachers and general classroom events that follow were written by the author and checked for interpretive agreement by his research assistant.

The student interview responses were audiotaped and transcribed verbatim, then edited sparsely for punctuation and clarity. Responses were then clustered by the four general categories described above. In the case of foreground and background concepts (found in the left columns of Figures 1 and 2), we independently coded each of the questions with respect to the presence or absence of the concept, and, if it was present, assessed its magnitude by using one of three descriptors: a weak, moderate, or

strong understanding. For knowledge of research procedures, we coded those questions by noting the presence or absence of general strategic knowledge, knowledge about locating information, knowledge of text-search aids, and knowledge about dealing with conflicting information. If such knowledge was present, we again used the three descriptors to characterize it.

A strong response was noted when a student was able to talk about a concept(s) or research strategy fluidly and articulately, with an reasonably deep understanding approaching that of an expert in the field (e.g., historian). We looked for the use of the concept itself (culture, change, religious belief structure, economic system, transportation system, evidence, reliability) in the context of an explanation about, say, daily life in a Native village, or in dealing with conflicting information in sources. A moderate response was one in which the student possessed a good understanding of the concept or strategy and its related facts, descriptors, and procedures, but also was one in which the student did not use a concept or give a name to a strategy itself in articulating a response. A weak response was indicated when a student responded in some detail to the question, but lacked fluid articulation, did not mention any concepts by name, and appeared to have only a dim understanding of the nature of the concepts or strategies asked for in the question. An absent response was one in which the student said that he/she did not know how to address the question, was unsure of what they did say, said they were guessing, conveyed no understanding, and/or displayed one or more misconceptions about the concepts or strategies.

Once we had completed our independent analyses, we met to conduct an interrater reliability check of our codings. Overall interrater reliability was .82. We worked out differences by agreement.

In the case of students' attitudes and perceptions of research, the author compiled analytic descriptions of the 12 students' responses to the questions, annotating them with quotations drawn from the two sets of interview data. The research assistant checked this analysis against the actual responses using the verbatim transcripts. Students' responses to the attitude and perception questions were straightforward and descriptive. As a result, the researchers assessments of the students' responses were congruent.

Results

Derson's Unit Goals

Conceptual and Strategic Knowledge. Derson's primary goals for the Native Americans unit involved (a) teaching her students to understand the culture of the Tidewater Indians so that they would learn to appreciate that those native people in some ways were more similar to Europeans than they were different, (b) providing a forum in which language arts and reading (research strategies, reading to locate information) could be as fully integrated as possible with a social studies-history curriculum rich in substantive knowledge (foreground concepts), and (c) teaching her students how to be effective researchers, knowledgeable about collecting information from sources, using multiple sources, obtaining facts, and the like. Regarding these goals, Derson put it this way:

> I used [the unit on Native Americans] to teach language skills in context, so that the students get excited and motivated. There are a lot of materials they can access. It is great as a research tool. I also think it is important to teach them to access facts or teach them some strategies for accessing facts, because they had said things to me like, "Well, I read in this book and it said this, and then I read in this book and it said that, and then I read in this here book and it said the opposite." I said, "Yes, well why do you think that is?" We talk about the author's point of view and that kind of thing. If you are only relying on one source and one person to give you the information, that's trouble. Facts are always changing. The reflections [journal] helped them focus in on the metacognitive, like what strategy am I using?

In her initial responses to our interview questions about goals, Derson mentioned the importance of obtaining facts (foreground concepts) and of using research strategies effectively. However, she said very little about the background concepts that would arise when students consulted a variety of sources to address their research questions. Although she acknowledges that students asked her about reliability issues (dealing with conflicting information), we needed to ask her additional questions to explore her goals with regard to teaching these concepts.

Concepts such as evidence, assertion, reliability, and validity surfaced in her response to our queries about them. Here is how Derson explained her perspective:

I tell them that they have to have facts that support what they are writing. But those facts change, even you were talking about science and technology, the information that we know. That is something that is true for history too. There are always discoveries being made or different slants being put on things. I always tell them, whenever they write, they need to support it and the facts have to be actual, as we know them. The facts must be accurate.

Interviewer: So the more contemporaneous the source the better?

Derson: Yes.

Interviewer: How reliable do you think the textual material is?

Derson: Oh, I'd say maybe seventy percent. . . .One of the reasons we do so much research is because facts are always changing and you just can't rely on a lot of memorizing of a body of facts. You are always going to have situations that come up where you are going to have to get new information or better information and it's constantly coming. So I'd rather have, you know, how to go about looking for something or maybe it is something I haven't covered.

Interviewer: You are asking kids to trust the books, but at the same time you think, well maybe thirty percent of that isn't very trustworthy?

Derson: It is like what we know now; this is it. Yes, you must use facts to document what you have but I am certainly not going to send them to the archives to go over primary documents. . . Even if you use a primary document, you have to know what people thought at the time, what was going on at the time. You have to have such a big picture. They may not be telling you exactly the truth, but this is the best we have to go on right now—but don't be surprised if it changes.

Derson noted the problematic nature of obtaining facts, the questionable accuracy of text materials used in historical research, and the need to accept inaccuracies in historical research, all difficult conceptual issues facing history researchers. However, she did not say much about how she taught her students to wrestle with and understand these background concepts, despite her stress on the importance of engaging in research practices that would bring them into view. Background concepts were deemphasized in favor of teaching research procedures that focused on developing foreground conceptual knowledge. Teaching

strategies for dealing with background concepts and about the concepts themselves effectively were kept in the background. The ordering of priorities regarding what types of knowledge would become most important for students was borne out by events in the classroom.

Purpose of Studying History. Derson described her rationale for the importance of studying history this way:

> I think history is such a large part of curriculum for the future, and also I think, personally, it is so important for understanding whatever is happening in the world. It is like my religion—you need to know what has gone before in order to understand what is happening now. You can't know what you are unless you know from whence you have come.

The animated nature of the way she taught history to her students demonstrated her enthusiasm for the subject. She also believed history allowed her significant room to wed language arts and reading strategies to it. Researching the past as a pedagogical approach helped her achieve this integration of subject matters and, she noted, to motivate her students to understand history's importance the way she did.

Researching Native Americans in Derson's Class

Lesson 1. The first lesson of the unit was an introduction to research procedures. Derson began by asking her students to close their eyes and mentally visualize the Eastern Woodlands Native American tribes she often called the Tidewater Indians. Then she asked students to draw a picture of what they were "seeing" on a piece of paper she passed out.

> Derson: Okay. Thousands of years ago—we are going back—you are supposed to be listening, eyes closed, imagining. . .imagine the state of Maryland 500 years ago. People lived here but not settlers from Europe. People did live here. I am sure you are imaging Native Americans. Focus on one person. What were they wearing? Draw a picture of what you saw. How did these people get here? There were no tribes around our school area. By the time we finish studying Native Americans you will know why. You have five minutes to draw your picture.

While students were drawing, Derson walked around the room, monitoring individual students and asking questions such as "How was their hair? Did they wear jewelry? What were their houses like?"

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She retrieved some chart paper form the back of the room, taped a piece to the chalk board, and then continued to roam the room.

Derson: Okay, stop drawing. Does this remind you of another task we have done?

Student: The research thing?

Derson: How about that research thing—that was to help focus your thoughts.

Derson asked students to turn over the paper on which they had drawn the Native American. On it was a KWL chart. She invited students to write down everything they knew about Native Americans in Maryland. She prompted them with several questions: what did they eat? what they drink? what games did they play? Once they had finished writing, the class shared what they knew. Students demonstrated general knowledge of the Tidewater Indians based on some preunit reading they had done. Students noted that the Tidewater Indians wore fringed clothing, hunted with bows and arrows, lived in wigwams, used canoes to travel by water, grew beans and corn, painted their faces with berries, and, they claimed, used every part of the animal they killed.

Then Derson asked, "How do you think they got here? Any theories?" She followed this immediately with, "Where did they come from?"

Student: Europe?

Student: Africa?

Derson: They could have come from Africa but would have had to cross the ocean (points to a map on the wall).

Student: Greenland?

Derson: Well, there was no one living in Greenland.

Student: South America—there were Native Americans in South America, but they didn't come from there.

Student: Asia?

Derson: (pointing to the top of the map near Bering Strait) Russia is part of Asia—see this little tiny strip? It would be easier to go across this than to sail across the ocean. I think it's about 30

miles. Think about plate tectonics. Could they have been closer? What about the ice age? Do you suppose if there was an ice age, what would have happened?

Student: It would have froze.

Derson: Would it be easy for a group to walk right across?

Students: Yes.

Derson: That is the general theory—they went down the West Coast (points to the map), then fanned out across Canada and into Maryland. You will see similarities between Asian culture and Native American culture. That is how we think people came to live here.

Derson held up a bound booklet that said "Reflections Journal" across the front in large letters. She explained that this was their reflections book, that every week they would work on research and for every activity they would fill out a page in the reflections book. She then moved from the front of the room to the bulletin board at the back. She asked, "Have you ever looked at this bulletin board? What does it say?" A student read it out loud, "A, G, O, P." Derson, who had moved back to the front of the room, wrote the letters on the chalkboard vertically. She noted that the acronym indicated the procedures they would follow in doing research about Tidewater Indians. She then explained that the letter A stood for "assign," referring to how topics for research were provided. The letter G referred to "gathering" information, O stood for "organizing" the information gathered, and P indicated the "presentation" of that information to the class.

Derson: Open your Reflection book to page one. Just look over the book. Look at the Table of Contents. What part of the research process were you working on today? Each day we will take about 15 minutes to fill out a page in our reflection book. Every day we do research, I will also do a language arts minilesson: How could you use headings, table of contents, using an encyclopedia? I will build my lessons form what you write in here. Now flip to the table of contents. By number one, please write this: "Tidewater Indians." Write your names on the cover and take the next 10 minutes to personalize your books.

The Reflections Journals contained 40 pages of the same one-page form and a Table of Contents page to be filled in by the students as they proceeded through the unit. At the top of each identical form,

students were to indicate their name and the date on which they engaged in a research task. Item 1 asked students to select the type of research process that they had worked on that day from a list of 13 possibilities (e.g., forming research questions, taking notes, drafting, publishing, evaluating). Item 2 provided two boxes in which students were asked to write how they went about the process. Item 3 requested that students identify the difficult and easy aspects of the particular research process, and 4 asked for a sentence describing what the student thought a good topic would be for the following-day's minilesson.

Lesson 2. This lesson dealt with the question: How do we know what we know? It was primarily an introduction to such background concepts as evidence and assertion, but reliability and validity concepts and issues also danced about the back of the classroom stage. Derson began by posing the epistemological question (above) concerning the nature of historical knowledge. Her goal was to help students understand that historical knowledge was indeterminate because historians had to rely on traces of the past that left only a partial picture of life long ago.

Once she asked the question about how we know what we know about the past, students immediately responded by referring to archeological digs and the artifacts that such digs unearth. This, they thought, provided the window historians used to represent the past life of, say, Tidewater Native Americans. Students talked about arrowheads and broken shards of pottery found in excavations. Derson pointed out that there also were other ways of finding out about the past, namely through book research, field surveys, and oral histories. All methods, she noted, gave historians only a partial idea of past events and cultures, implying but not stating directly that, in the act of doing research, historians needed to confront serious questions about missing data and the reliability and validity of the sources they did have. With indeterminate historical knowledge as the crucible, Derson told her students that they therefore needed to research carefully and consult a number of sources. Having made her plea for careful research however, she stopped the discussion short of delving more deeply into how historians deal with the difficult epistemological issues such as deciding a source's validity and reliability, adjudicating conflicting information when it was found, and handling gaps in information. Students were left to their own strategies for sorting out these matters and understanding their interrelated

concepts, if and when they would encounter them. The class ended with a videotape describing the lives of several Tidewater tribes native to Maryland and the Chesapeake Bay region. Students were asked to take notes as a prologue to thinking about a tribe on which they would focus their research.

Lesson 3. This lesson was devoted to showing students how to access computer data about Native Americans. Students' mission was to learn to use the computer program and its database to explore customs and languages of Native American tribes in the Maryland tidewater area. Essentially, the exercise was a search-task activity which would later benefit students as they did research on a tribe they would study.

After groups of three students had rotated through their 10-minute period on the computer, Derson called their attention to the front of the room. She had brought to class her collection of Eastern Woodlands Indians' artifacts (arrowheads, pottery shards, beads, an arrow, an Indian doll, and several objects that appeared unidentifiable to the students). She held them up, showed them off, and then passed them out one by one to the students. As she did this, she asked students to think about what each was and how it might have been used. Then she used the remainder of class time for the purpose of having students write a story about one of the artifacts and speculate what it might have been used for. The lesson revolved primarily around teaching research strategies (computer search task) and writing, an effort to fully integrate language arts and social studies.

Lessons 4-5. Both these lessons centered on mounting the research projects that would consume most of what remained of the unit. The focus in Lesson 4 was on learning to ask what Derson called "good questions," those that were researchable and could generate a sizable collection of information. She illustrated with, "What sort of life did a particular tribe lead?" Over the course of the two lessons, Derson handed out a stapled "research packet" that asked students to answer questions on food, clothing, shelter, language, customs, and technology (space to write answers next to the questions were provided) with reference to the tribes students were researching. Derson also explained how students might use tables of contents and index systems in the many books she had brought to class as source materials to quickly find the information they needed for answering questions in the research packet. She illustrated by picking books off the pile of sources and pointing to the tables of contents and indexes. She then had

students pick books from the source pile and begin exploring. The class ended with selections of research topics (a tribal group, or a particular aspect of the Tidewater tribes such as their technology or foods) and the division of the class into small research groups of two or three students.

Lesson 6. Students took a brief vocabulary quiz on what they had been studying about Native American customs and tribal life to date. Then Derson introduced the "Native American Craft Project." Students were asked to think about what they might like to do for this project, that is, the making of a facsimile long house or wigwam, the construction of a doll Native American children in the Tidewater region might have played with, or the preparation of some type of authentic tribal food such as succotash. This project would serve as one of the culminating activities of the unit.

Lesson 7. Derson began with a minilesson on research strategies. Specifically she talked more about how to locate information in texts using text aids such as tables of contents, subject and name indexes, and alphabetical ordering. She also indicated that this would be the first day that students would be asked to write in their Research Journals, and that the following day she would begin teaching minilessons that were responses to issues students raised in conducting research. Students then were freed to begin their research activities in groups, employing the categories and research questions provided in the "research packet."

Lessons 8-11. These lessons were spent doing research, using the computer database and the books Derson had brought to class. Students used the computer in group rotation, consulted many of the trade and non-fiction reference-type books on the source pile, and occasionally consulted the classroom encyclopedia set as they systematically addressed the research packet questions (e.g., What crops did the Indians plant? How did they catch fish? What did the Indians use for money? Why did the Indians build their village near a stream or a river?).

In lesson 9, Derson's minilesson centered on problems students encountered in using indexes to locate information. Specifically, she focused on how to use page numbers listed adjacent to a subject or name heading (e.g., the difference between pp. 46, 48, 51 and pp. 46-51). Derson also provided a short explanation of the foreground concept of gender role divisions found in a number of Tidewater tribes (males typically hunted and fished and females gathered, cooked, and were primary childcare providers),

and noted that some tribes practiced a matrilineal social organization that put females at the head of the tribal decisionmaking process.

In lesson 10, the minilesson involved helping students plan for their Craft Project. She returned to the KWL exercise she had conducted earlier and asked students to think about what they wanted to know, or what they were interested in. They were to use this as a basis for deciding the nature of their Craft Project. After 10 minutes of brainstorming different possibilities, where both Derson and her students offered up possibilities, students returned to their research packet work. During that time and also during the same post-minilesson period in lesson 11, Derson met with groups of students to identify Craft Projects. A number of students had decided to make food dishes native to the Tidewater tribes, thanks in part to a series of recipes Derson had brought to class from her home collection. One group of boys decided to make a tomahawk and another group an addle addle. The minilesson held as the prologue to lesson 11 involved Derson in teaching her students procedures for organizing and creating their Craft Projects. By the end of lesson 11, students were to have finished addressing the questions in their five-page research packets. This marked the end of the formal research activity for the unit, the daily writing in the Reflection Journal, and the minilessons that bridged from students' research difficulties of the preceding day.

Lessons 12-15. These lessons were consumed with Craft Project work. More research was done, recipes and data from the research packets were consulted; charts were made on poster board; a tomahawk was carved; and several students worked on building a longhouse out of toothpicks, popsicle sticks, and grass. For four class periods, the room was filled with animated voices and sometimes frantic energy as students hurried to construct and prepare their presentations. Derson roved the room, making suggestions and helping students in any way she could short of doing projects for students.

Lessons 16-17. These two class periods were spent making oral presentations of Craft Projects. With some relish, small groups of students took turns illustrating what they had done. Because a number of students had prepared food, the room was filled with interesting odors. Students sampled the foods intermittently. After a number of recipe-food projects had been presented and the class was busy tasting the fare, Derson said, "Now isn't history just delicious?"

At the end of these two class periods, Derson had the students engage in writing letters to a sister school in the district. Students were to explain in their letters about doing research on Native Americans in Maryland and especially about the nature of their Reflection Journals, what they wrote in them, and how they served to help Derson understand the difficulties they encountered in doing historical research (e.g., trouble with indexing, page numbers, unhelpful tables of contents) and prepare minilessons. The letters were just that, descriptive accounts of how the Research Journal worked and the purposes it served.

Lesson 18. This was test day. Students spent an hour working through the four-page test. It consisted of five true-false items, seven matching, a three-part short essay question, a vocabulary section, and a map-labeling activity. The items on the test were drawn from students research work and their responses to questions in the research packet. The test was an effort to assess students recall of key cultural customs and norms operative in the Tidewater tribes students studied. The essay question asked students to chose a custom found in 17th/18th century tribal culture (e.g., building homes, obtaining meat, transportation) from a list provided and compare it to the ways in which we engage the same custom today, an effort to address students' presentism and the phenomenon of change by asking them to note differences in customs and shifts in cultural practices. On average, students did reasonably well on the test, attaining 75% or better correct responses.

Costello's Unit Goals

Cultural Appreciation. Costello's main unit goals hinged on helping her students come to appreciate the culture of Native Americans as important and interesting in its own right. She said, "I want them [students] to appreciate their life and customs, to respect their intelligence, and to understand how industrious, creative and inventive they were." When asked about the central concepts and strategies she would stress in the unit, Costello reiterated this important theme of cultural appreciation. For her it meant that students would dig into the past (researching) to find out what they could about these culturally different people. The purpose would be for her students to learn as much as they could about various aspects of Indian culture, including such things as their food, clothing, shelter, religion, technology, art, and language.

Although she articulated them differently, in many ways Costello shared the same foreground conceptual pedagogical goals as Derson. However, for Costello, research appeared more as a practical pedagogical approach aimed at generating information about and evoking interest in conceptual knowledge of Natives in Maryland, rather than as an important set of strategies students needed to learn as part of their broader education and as a way to integrate language arts, reading, and social studies. In this way, Derson distinguished herself from Costello's approach to and limited stress on teaching strategic knowledge. Usually on a one-to-one basis when they asked her, Costello helped her students navigate the text aids found in the books. But she did very little direct teaching about how to read and use different historical sources, manipulate indexes and tables of contents, and generally understand the finer points and problems involved in doing historical research. These lessons were reserved for language arts and taught as general research skills, not directly connected to researching the history of Native Americans in Maryland. Students were left to make the transfer.

Because the study was interested in both teachers' views about background concepts and strategies for understanding and dealing with them, we asked Costello also about her view of the past and how she understood concepts such as evidence, proof, validity and reliability in historical research. Regarding her view of history, Costello registered her belief about an ever-changing discipline, searching for different ways to understand the past as well as for more accurate information. She said,

> The nature of historical evidence is constantly changing. Our present methods of research make it easier to obtain and verify information. Specialization, for example, in a specific field of study can provide new and more accurate information.

Searching out and possessing increasingly accurate information seemed to be at the center of Costello's view of historical work. However, she did relate that uncovering accurate information was a difficult and problematic task, noting that little of what we know "is 100% accurate." Later she stated, "I try to impress upon my students that history is not always factual, that historians are constantly trying to make more accurate interpretations." She did not discuss the background concepts explicitly, nor did she explain what corresponding strategies she would teach her students to assist them in sorting out accurate from inaccurate interpretations. As in Derson's classroom, little time would be spent teaching about

strategies related to background concepts. Such concepts (evidence, assertion, validity), and strategies for dealing with them, would remain in the background.

Purposes for Studying History. Costello's views on the purposes for asking fourth graders to study the past were bound up in her cultural appreciation goals, and in her desire to excite students about social studies and history. Returning to the appreciation theme, she said,

> Just to appreciate the life that went before them. It's people. It is people and how they lived. Their personalities and what they liked. But then you learn a lot about other aspects when you learn about people. I think it is more of an orientation. Because I think they are at the age where they can appreciate it—it is just an appreciation. A lot of it is abstract but they can appreciate it. I think it is important because of that. It is a beginning toward appreciating what people have done, inventions, how far they have come.

With respect to exciting students about history and social studies generally, she noted, "I find that this is the time to get them. If you can get them interested in learning about history, they will continue. I think that's true for a lot of these kids. I find them saying, 'Are we having social studies today?' I might say no, but I know they like it because they're asking." Asking students to do research and gather information about the past was a key method for engaging their interests.

Researching Native Americans in Costello's Class

Lesson 1. Costello introduced the unit on Native Americans in Maryland by explaining how students would be engaged in conducting research on these indigenous peoples. The Maryland Indians, she noted, were the first Americans known to inhabit the Tidewater Chesapeake Bay area. She went on to describe how historians believe that American Indians originally came from Asia and had crossed a land bridge in what is today the Bering Strait. She illustrated by pulling a large map of the world down across the chalkboard and pointing to the Bering Strait. She further explained that this area may at one point have been connected by land, allowing migratory Asians to cross, perhaps as long ago as 10,000 years. The fourth graders seemed surprised to hear this.

Costello passed out a three-page handout she and another teacher at her school had designed, called a "Research Outline," that contained questions about Natives in Maryland students were to

"research" using a textbook Costello then held up (titled *Our Maryland*, Eaten & McGinnis, 1987) from which students would draw most of their "data responses" to the questions. (This Research Outline was very similar in format and questions to the "Research Packet" used by Derson.). Costello then said that she would be bringing several other books to class for students to use. She went through the Research Outline with students briefly. Then she noted excitedly that students also would get opportunities during the unit to do some sandpainting, an ancient Native form of communication and artistic expression, and make wampum, a form of Native money. Finally, she described a "story" students would need to write about a Maryland Native American tribe that they would then "present" (read) to the class at the end of the unit. Students would use the information they collected in their research to write their stories. The lesson ended with Costello passing out copies of the textbook and asking students to look through it, find the chapter on Native Americans in Maryland, and skim it.

Lesson 2. This lesson opened with the passing out of pocket folders to each student. Costello told students to put their names on them and label them "Native Americans in Maryland. These folders, she explained, would serve as the place where students stored all the materials they would be given and collect across of the unit. Costello then said, "As an example, I'm going to give you a map [holding up a copy] that I want you to work on today. You probably won't get a chance to finish it, so keep it in your folders for our next social studies lesson. Then you can take it out and finish it." She then passed out the map activity and explained to students that it was a map of Maryland. She wanted students to use their textbook and several other books that she had put on the shelf near the back of the room to locate the Tidewater tribes listed on the reverse side of the sheet. That list contained about 12 tribes. Students were to find a maps in the books and then write the tribe over the place that the books said that they were known to inhabit. Students pulled out their books and spent the remaining class time filling in their maps as Costello moved about the room, monitoring, giving advice, and answering questions. Near the end of the class period, Costello told students who were almost finished with the exercise that they could use markers or colored pencils to "decorate" their maps. She cautioned them to be careful not to use colors that were so dark that it became impossible to read the names of the tribes. As the class ended, students were asked to place their maps in their folders along with their Research Outlines.

Lesson 3. Students used the first part of this class to finish up work on their maps. Costello noted that those who were finished should get out their Research Outlines and begin their research on the questions it contained. She moved to the back of the room and, one by one, held up the additional informational books she had brought to class (e.g., *Maryland History* by Mary Michael, 1983), explaining that students should use them as well. She also held up the textbook, *Our Maryland*, and noted that students could find a list of all the major tribes in the Tidewater Chesapeake region by turning to page 27. Activity on the maps continued for some students while others proceeded on to collecting information and answering the questions on the Outline.

Lesson 4. Costello began this lesson by passing out a five-page collection of information on different aspects of Tidewater Indian culture. The topics covered in the handout included information on food preparation and types of tools used for that purpose, meat sources (wild turkey, fish) and tools used to capture and kill them, games Native children played, and how they created canoes for travel. The pages contained drawings designed to illustrate the activities described by the text surrounding them. Costello also passed a three-page written text that reiterated much of the information contained in the other books students were using for their research. She told students to consult these handouts as they answered the questions on the outline. None of these sources of information were referenced.

Before allowing students to pursue their task of collecting information from the sources provided, Costello described in more detail the "story" students would be writing after they finished their research. She explained that students would be picking a tribe, assuming they were a child or adult in that tribe, and then writing a story about life experience in that Native group. She talked about how they would write an initial draft of their story, Costello would read it and help them do necessary editing, and then they would write a final polished version that would be read or presented to the class. All of this writing would be done on the computer using the word processor. None of students asked questions about the word processing task, but they did have questions about which tribes they might choose from and how to tell the story (e.g., Can I be a child and talk about the games I played?). After spending several minutes addressing these questions, Costello asked students to begin work collecting more information for their outlines, and suggested that some students who were finished with their research to begin

crafting their stories, either on the one classroom computer available or on a piece of paper. Costello began circling the room, stopping to address questions, monitoring student activity, and helping a female student who had immediately gone to the computer to begin composing a story. Occasionally, she would interrupt classroom activity to address a point she thought the entire class should be privy to. Here is an example:

Costello: Class, class! Let me have your attention for a minute. Did these Indians in Maryland live in tipis?

Several students: No!

Costello: What were their houses called?

Student: Wigwams.

Costello: Yes. And wigwams and tipis are not the same. Wigwams are longhouses used by Indians in Maryland. Good. Now, what did they use the bones of the deer for?

Student: Needles. Necklaces.

Costello: Yes, good. I just wanted to make sure you were getting this.

Although their were no formalized groups for the research task, students' desks were arranged in clusters of four and five. Effectively, these clusters became working groups and students seated at them freely shared information they were logging on their Research Outlines.

Lesson 5. Over the course of teaching about Native Americans, Costello had done a fair amount of research herself in an effort to locate information and sources she could deploy in the classroom. As a result she had become intrigued with several aspects of North American Native culture: their art and language. She was particularly interested in Native sign and symbol language. She began this lesson by attempting to bait her students' interests as well. She circulated a handout she had prepared that contained a story written in a combination of English words and Native symbols. The Native symbols corresponded to English nouns in the sentence that helped tell the story (e.g., symbols for boy, forest, fish, etc.). The class read and studied the story together. Then Costello asked them to make a set of their own Native symbols, construct a story around them with someone at home, and bring it in to share during language arts later that week. Students then were told to flip the page and examine the Navajo

alphabet written there. Costello suggested that it could be used as an example. The remainder of class time was spent working on collected information from sources materials and filling in the Research Outline.

Lesson 6. Several days elapsed between Lessons 5 and 6, during which time Costello had collected and examined what students had been writing on their research outlines and on their map exercise. The first portion of this lesson was spent in a review of what Costello had found and, in part, marked her attempt to correct misinformation.

Costello: Did anyone read in the readings that Maryland Indians lived in caves?

Several students: No.

Costello: What did they live in then?

Student: Longhouses.

Costello: Yes. But some of you put caves and tipis. Did you read this somewhere? Well, other ideas about shelter?

Student: Loghouses?

Costello: Did anyone else read this?

Several students: No.

Costello: Make sure you check this if you wrote down caves or tipis or loghouses. Some of you put corn for food? Any other uses of corn?

Student: Beads on clothing.

Student: Bait for fish.

Costello: Yes. How did they fish?

Student: With a weir.

The class continued in this vein for another 10 minutes. Then Costello discussed the due date for the "story" students were working on. The class voted to make the due date on the following Friday, about a week and a half away. Students spent the last part of the class time on their research efforts.

Lessons 7 and 8. These lessons involved an activity Costello called "sandpainting." Costello gave each student a piece of sandpaper and some glue. She laid out small dishes containing different

colored pieces of stone and plastic. She demonstrated to students how to draw a common Native symbol (e.g., eagle, deer) on the sandpaper in pencil, and then how to use the glue to coat certain portions of the drawing in order to place colored stone or plastic there. By alternating colors, students could creative brilliant designs, she noted. She also explained that there was no evidence to indicate that the Tidewater tribes made sandpaintings, but that tribes in the west (Navajo) had done so. She then suggested that, since there was sand in many places lining the water areas around the Chesapeake Bay where the Natives lived, it was possible to imagine that the Tidewater tribes also engaged in sandpainting. Students spent the class decorating their pieces of sandpaper, using a series of sheets containing a variety of Native symbols copied from books by Costello and handed out to students. The following class involved students taking turns describing their sandpainting symbols and why they chose the colors that had. Later, Costello mounted the sandpaintings on the wall outside the classroom.

Lesson 9. This lesson was spent in a question-by-question review of Research Outline. Students were asked to take out the textbook, *Our Maryland*, to use as a quick reference during the review. Costello called on various students who were asked to read a Research Outline question and supply what they had written. Occasionally, Costello would ask students to use their textbooks to provide evidence and proof of particular claims they were making in response to Outline items. Here is an example of the dialogue:

Student (reading item 9): "Compare Native America women's jobs with women's work today."

Cook, do the laundry, some go to work, both do child care.

Costello: Any others?

Student: Go get groceries.

Student: Child care, cook, make clothing.

Student: Sew and wash dishes.

Costello: How do the jobs compare?

Student: Both cook , both do child care.

Student: Both take care of the family.

Student: Both sew.

Costello: Do Indian women wash clothes? Did they?

Several students: Yes.

Costello: Can you prove it? Show me. In science, if you have an idea, you have to prove it and in history to you have to prove it too. In our book it doesn't say. You would have to find it in another book to get proof. Did anyone do that? (silence)

Costello (reading the next item): Compare and evaluate the Native American food to the four food groups. Was there anything missing form the Native American diet? What did they eat most?

Student: Meat.

Student: Vegetables.

Costello: How about bread and grain? Corn is a grain; they also ate rice. What about dairy? They had none. They used bear grease for fat.

Costello had students use the remaining class time to begin work on a homework assignment. It was called a "Research Page" and was to assist students, who had yet to decide, in selecting a tribe about which they would write their story. The sheet contained nine questions which asked for basic information about the tribe itself. The last item asked students to draw a picture of a person in the tribe in their Native regalia. Many students began with this last item.

Lesson 10. Students engaged in the activity of replicating Native wampum, a form of currency used by Tidewater tribes. Costello began by explaining the variety of ways wampum was used as a vehicle for exchange. She described how she originally had many questions about wampum and consulted different books as a form of research to answer her questions. She said she photocopied a series of pages so she could hand them out in class. Students were to use them as guides for creating their wampum facsimiles. Students took turns reading about wampum in the photocopies Costello had passed out. Then they embarked on using the rest of class time to make their own versions. Costello ended class by reminding them that they would be finishing up their Native American stories during language arts over the next several days and begin presentations on the next Friday.

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Lesson 11 and 12. As a culminating activity, students took turns coming to the front of class and reading their stories to the class. Some stories were quite short, numbering only a handful of sentences, while others were long, spanning several double-spaced pages. Many began with a phrase such as, "My name is Silver Moon, and I'd like to tell you a little about myself. I am a young Patuxent Indian girl." Costello moderated the event from the back of the room, nodding approvingly to each student as they read. Several times she had to ask students to speak up so everyone might hear. After students had finished in Lesson 12, Costello collected their stories. These, she later said, served as the unit-assessment tool and were graded.

Comparisons

Derson and Costello were comparable in many ways. Both were veteran teachers who loved history, enjoyed reading it and teaching their students about it, and were concerned about the factual accuracy of historical accounts. They shared the goal of teaching students to appreciate the customs, language, food, clothing, and technologies of Tidewater Native tribes. They also shared in the pedagogical approach of using "research" as way of interesting their students about the past and as a method for challenging them to learn. Both stressed gathering facts and having students assemble their own accounts of the past, but neither made much direct mention of background concepts or taught strategies for dealing with them. Each preferred to leave students to their own devices for dealing with conflicting information and judging the nature of text sources and their knowledge claims.

Nonetheless, given the context of this study and the questions it asked, the teachers did differ in important ways. Derson placed equal emphasis on learning about the past (conceptual knowledge) and on becoming an "effective researcher" (strategic knowledge), while integrating the two as often and as explicitly as possible. Costello, by contrast, was less apt to stress strategic knowledge goals, placing more of her emphasis on learning and appreciating the nature of Tidewater Native American cultures. In several ways, their definitions of "research" were different: Derson more actively stressed its procedural, rigorous, and problematic nature, while Costello viewed it more as a pedagogical strategy designed to keep students interested in getting the facts and details about Native groups. These differences played

out in the classroom in fairly obvious ways, and in more subtle ones relative to what students reported learning.

Student Interview Responses

Knowledge of Foreground Concepts. As Table 1 indicates, on foreground conceptual knowledge of Native tribes in Maryland, the two groups of students were fairly evenly matched. About two-thirds of the responses from students in each class were of a moderate nature, reflecting a firm grasp of the culture, customs, and daily lives of the Natives, but lacking articulation of the concepts themselves. Only a handful of the responses from each group demonstrated deep knowledge of the concepts and fluid, articulate use. This was not surprising since both teachers focused on getting the facts and details about the tribes in the research process (e.g., the research packet or outline questions each used) and seldom stressed by name the conceptual ideas that these details converge around. Weak responses were minimal and all the students in each class possessed at least some knowledge of the concepts. Concepts such as cultural change and causation are complex and can be difficult for fourth graders. The fewest strong responses were recorded in students' reactions to the questions that asked about them.

[insert Table 1 about here]

Knowledge of Background Concepts. A similar, evenly-matched result turned up in students' responses to questions that asked about their knowledge of background concepts. Here both groups of students struggled. As Table 2 indicates, the majority of responses fell within the weak range. A number of responses also suggested that several students lacked any knowledge of background concepts. Only roughly a third of the responses in each class were of a moderate nature, and then, Costello's students held a slight edge. Students in both classes also showed no gain in their knowledge of these background concepts across the year as indicated by their responses to questions at the end of the Native Americans unit and a similar question asked at the end of the school year. This suggests that both teachers continued to deemphasize and/or ignore these concepts in other social studies units despite continued research activities.

[insert Table 2 about here]

Again, this result should not be considered especially surprising. Neither teacher discussed background concepts directly, or even alluded to them indirectly, with the exception of Derson's lesson on "How do we know what we know?" and Costello's request that students obtain proof for their responses to the Research Outline questions. As with concepts such as causation and cultural change, background concepts that focus on validity and reliability, evidence and assertion, and the nature of sources, author bias, and so forth are complex and may be difficult for young students to understand, particularly those with limited prior knowledge of history and historical research. In their work with students of various ages in England, Lee, Dickinson, and Ashby (1995) found that young children have difficulty with the relationship between concepts such as explanation, fact, and evidence. Older students they studied appeared to hold more sophisticated and interconnected ideas about these concepts. The younger children (7-10 years old) often oversimplified and narrativized their understandings of the past, making few distinctions between facts, evidence used to justify calling them facts, and the resulting historical explanations of events. Barton (1996) found similar results in the elementary-age students he studied.

Strategic Knowledge About Research. Derson's emphasis on teaching strategies for doing research was most evident in responses students registered concerning their knowledge of research procedures. Here, Derson's stress on becoming an "effective researcher" played out in the differences between her students' responses and those of Costello's. As Table 3 reflects, the majority of Derson's students' responses fell in the moderate range, indicating a reasonably firm grasp of research strategies, but without the well-honed and deep expertise that characterizes professional researchers—a good outcome considering that Derson's fourth graders were yet novice researchers. But, given Derson's equal stress on developing knowledge about Native American culture and becoming effective, strategic researchers, one would expect Derson's students to fare somewhat better on such questions. Less than a third of Costello's students' responses fell in the moderate range; fully two-thirds of those responses showed only weak knowledge of research procedures. Unlike Derson, Costello continued to stress cultural appreciation and gathering knowledge about specific events in the classroom. Employing

research strategies as a way for her students to gain knowledge about and learn appreciation for Native culture remained a pedagogical approach rather than an end in itself.

[insert Table 3 about here]

It is worth noting that two-thirds of the weak responses recorded by Derson's students occurred in relationship to two questions asked in both protocols, those dealing with how to handle conflicting information. Students in Costello's class struggled with these questions as well. Apparently, experiences across the year with research work did little to provide strategies students could articulate in dealing with conflicting sources once they were found. Neither Derson or Costello appeared to provide their students with procedures for confronting and resolving these conflicts. Nevertheless, students in Derson's class were quicker to report and with greater frequency that they would continue to consult additional sources of information as an effort to resolve their difficulties with conflicts (a form of text "corroboration" engaged in by historians as they build historical event models; see Wineburg, 1991, 1994). However, when we asked them to explain how they would eventually decide on what to include in their reports, Derson's students seemed unsure, and often said things such as, "Well, I would just choose one" without being able to explain how they would make their selections.

Attitudes, Interests, and Views on Purposes. In the first protocol, we queried students about their views of the importance of doing research, its purpose by their lights, and what they found most interesting in their study of Native Americans. We returned to several of these themes (purposes, importance) in the yearend interview protocol and also added questions about whether or not they enjoyed doing social studies research and how they viewed themselves as researchers (see Figure 4 for the questions). Generally, we were interested in trying to get a sense of possible changes in attitudes in each class, since both teachers continued to ask them to do research in social studies across the year.

(1) Purposes. Regarding purposes for doing research, students in Derson's class said such things as:

> Andy: It could be good for your learning skills. Probably it would improve you. Well, probably every time you do research you would learn more.

Jason: To find out more. It's either that we are interested, or we *have* to learn about them. . .because you could be being forced to learn about them and you might not want to, but if you are interested you are just doing it for fun. It's not because your teacher says, "I want you to research this thing about East Coast Indians." For me, it was a little bit of both. I wasn't always the happiest doing it.

Stella: There might come a time when you would have wished that you had learned about them. Well, sometimes if you are doing stuff about them in a different grade, you probably want to know a little bit about them instead of nothing.

Steve: So you know more about what happened a long time ago.

Terri: I think it is to learn more about that topic so that you will know it when you are grown in case you have kids and they ask you about.

Learning more about Native Americans, having more knowledge, seemed to be the consensus among Derson's students as the purpose of engaging in research. Jason appeared to be somewhat disaffected by doing research. Later, we were told by Derson that Jason was often more interested in being given "correct answers" rather than digging about for information himself and making his own judgments. Terri's response was poignant: More information to be used to answer your own children's questions later in life. Interestingly, at the point of the first interview, none of the students mentioned becoming more effective researchers or locators of information as a principal goal, despite its importance to Derson.

Costello's students also indicated that research's purpose was to help obtain more information and gain a degree of understanding from it. However, they added additional purposes not indicated by Derson's students.

Zani: I don't know. I think that it's because if you have a paper and the teacher says, like she gives us a test and gives a paper and you only have one thing down; you won't know it so you have to put as much as you can.

Gina: To learn more about native Americans than we know right now. For instance, I know that Indians were the first people in America. Maybe I didn't know that Indians put on deerskin to hunt and I learned that in the research, and I can say, "Oh, that is interesting." I actually learn more.

Joel: So you can understand something better and learn about it.

John: The point is to learn stuff and have fun. That's about it.

Mack: Maybe the teacher wants us to know stuff so we can teach our kids to do it.

Zani thought that doing research was a method one used to prepare for a test, and John added that it might increase the level of fun he was having as he learned. Mack's response was very similar to Terri's.

(2) Importance. In the first interview, all the students in both classes, except Jason from Derson's class, thought that learning how to do research was important. Jason, still the pessimist, said, "I don't see what's the biggee about researching Native Americans. I don't see what's so great about them but we learned a lot about them." For the remaining 11 students, differences did emerge when students were asked *why* they found doing research important.

Derson's Students

Andy: Because some part of it is a part of learning. It could be good for your learning skills.

Stella: Because there might come a time when you would have wished that you had learned about them. Well sometimes if you are doing stuff about them in a different grade, you probably want to know a little bit about them instead of nothing.

Karen: Yes. Well, maybe. . .Sometime in my life. I don't know.

Steve: Yes, so you can find out what happened a long time ago around here. You might find out something that is kind of interesting that we might use today.

Costello's Students

Zani: Because as soon as you get older and older and older maybe when you are in college, someday has, they might have a test on Native Americans and doing that you wouldn't understand anything.

Gina: I think it is important to learn the history of Maryland to see what the past in Maryland was like. I am the kind of person who likes to know more about one thing instead of just the present. I want to know the past.

Shantelle: Yes. So you would know how they lived back then and if some people didn't come and give them diseases, how you would live right now. If the settlers didn't come then and they stayed where they were, they would probably still be more Native Americans here right now.

Joel: Yes, so you can learn about how Maryland became a state and what they did before there was cars and how they survived.

The cultural appreciation theme was evident in several students' responses in both classes, but was more pronounced and embedded in the responses of Costello's students. Andy was the only student to stress the importance of gaining research skills, perhaps reflecting Derson's emphasis on strategic research

knowledge as important in itself. Zani continued to see research as a form of gaining knowledge in preparation for a test. Shantelle's reaction arguably was one of the deepest responses, with references to the concept of understanding causation. This was unusual since Costello did very little to stress causal historical understandings.

(3) Purpose and Importance of Doing Research at Year's End. At the end of the year, Derson's students, more so than Costello's, had a tendency to refer to the importance of gaining knowledge about research procedures, such as locating and gathering information, taking notes, and constructing written reports. Andy mentioned that the purpose for doing research was to learn how to get information from books and write reports about it. Jason indicated that it helped him "become a better reader and researcher." Karen said, "To learn how to look things up, find information. . .how to read, like I mean, get better skills in reading." Steve suggested that Derson had taught them how to dig for more and better information, to go into a topic more deeply than simply reading it out of the textbook. He thought that this pushed him closer to getting at the truth, what he called "the real stuff."

None of Costello's students said anything about learning *how to* research and exercise those sorts of skills except Shantelle. Zani wasn't sure what the purpose was or how it was important. Joel tied the purpose of learning to do research to getting a job without elaborating much except to note it in relationship to becoming a geologist. In a rather penetrating analysis, John suggested that it helped him to understand the past in a way that allowed him to make better sense out of his current life. He said, "It is like it shows why you are this now, like why you do this. What happened in the past affects you today." (For a more detailed analysis of these types of rationales, see VanSledright, 1997.) And Mack thought the purpose of doing research was to get students to learn something well the first time so that they would not have "to learn it again and again." Mack also added that what one learned from doing research could be used to help his own children, a purpose cited by Terri and Mack himself in the earlier interviews.

The responses by students in both classes tended to be more elaborate in the yearend interviews. Derson's students tended to reflect her stress on developing and honing their research skills. Costello's students were more apt to register a variety of responses, many of which they claimed were developed on

their own without reference to anything Costello had done. Only Shantelle said much about obtaining improved research knowledge. Again, little of this is surprising given the different emphases the teacher's placed on the role of research strategies and knowledge.

(4) Attitudes About Doing Research at Year's End. In the yearend interviews, four of Derson's six students (Andy, Steve, Terri, and Stella) reported that they liked doing research in social studies. These four concurred that it was because they thought that Derson had made it fun and interesting, and that they enjoyed the topics that she helped them select. Jason reiterated that he actually did not care much for social studies research because he lacked interest in the topics. Karen was ambivalent. She said, "Sometimes, I like it. I was just stuck at first. I didn't really care for it then, but when we started it, we learned more things about it, then I liked it."

Costello's five students (Gina had moved away) all indicated that they liked doing research in social studies. Zani, Shantelle, and Joel enjoyed it because they thought it was fun. Mack thought that, whereas he liked doing history research, he was not very good at it. He also thought that his experience with it in fourth grade helped him to improve. John, initially positive about it, said that he did worry about getting "untrue" information occasionally and that he felt unsure about what he could do to resolve it. In a rather incisive analysis, he said at one point,

> I like learning new stuff but I don't like finding it, looking for it. Well, it is pretty neat how, in the past, there were all these wars and you wish you could have been in every one of them—you could see all the animals, the landscape, like everything, but you can't do that anymore. You can only read about it and it might not be true. Because people back there, they only had notes where notes could be lying. From like the people who were back then, they kept on passing down notes or maybe a dairy, and they kept on passing them down to their children and it finally got to this author and he did a book, but the diary might not be true. What am I supposed to do with that?

John's worry is the same one facing historians, a concern begged by the process of being asked to do historical research in general, and one not addressed systematically by either teacher. John was the only student to articulate it this clearly, although Jason from Derson's class hinted at it several times.

(5) View of Self as Researcher at Year's End. Generally speaking, Derson's students reported becoming more effective as researchers across the year. Several reported gaining considerable benefits under Derson's tutelage, a tribute to her concerted efforts. Here is a representative sample of her students' responses.

> Andy: I got kind of better at it. I asked more interesting questions. I think my reports are a little bit better too.

> Karen: I think that I learned a lot. Like at the beginning of the year I wasn't really sure how to look up things. It was more difficult at the beginning of the year and now it is really easy, because I had to write notes, an I had to look up things, like looking in the index, looking to see what kind of stuff was in the book.

> Steve: I think I am a much better researcher than I was before. Because at the beginning of the year it would take me a long time to find what information I am looking for but now I can find it real fast and then write down what is important and what is not. Sometimes you will write research questions and you will see if they were talking about the question or not and, if they were, that would be like the important stuff.

> Terri: I think I'm a little better because she gave us, she taught us how to research stuff, like she taught us how to take notes and to write down where we got them in case we needed to look back for more information.

Costello's students also reported thinking that they were good researchers. However, unlike Derson's students, they did not attribute any successes to Costello herself. Since Costello used research activities as a pedagogical approach and did not stress its benefits or procedures specifically or regularly, students views probably are more attributable to their own experiential and developmental growth across the school year. Here are several responses from Costello's students.

Shantelle: Well, I am a pretty good researcher. You have to like, when you are researching things, you can't copy exactly down what you saw. You have to take out the most important things and then rewrite it in your own words.

Joel: I think I am pretty good because I know where to look up stuff and everything. I know the encyclopedias and everything and they always have stuff about stuff I'm looking up. I'm good at like writing projects about stuff—like stories. Like we had to write a story about being an Indian. I'm a good reader too.

John: I think I am pretty good. Well, even though Ms. Costello tells you to look up stuff, I go ahead and do it and I always find the right thing. I don't ask anyone to do it for me, but I ask people to help me. And I mix stuff around. Like. . .like, you. . .when the Pilgrims came over—if you took and compared stuff from the past to now, you'd know how it would be.

Mack: Um, I'm good at looking up things and putting them on paper. I am not good at making it into a project like that; I can't put it together very well.

Zani was the only student from either class who said that she was a poor researcher. In fact, she described herself as "terrible," because, she said, she "messed the whole thing up," and was unable to pull information together into a coherent report or story. In the wake of her comments, we reexamined the "story" Zani wrote for Costello as the culminating activity for the Native American unit and found it to be as coherent and well written as most of the other fourth graders' stories. In this light, it is difficult to make sense of her self-assessment.

Overall, the self-assessments of Derson's students were imbued with a greater sense of confidence than those of Costello's, a result hoped for by Derson through her efforts at developing strategic fourth-grade research enthusiasts. However, it is important to note that most of Costello's students also displayed a degree of confidence in themselves borne out by research experience itself. A

few students across both classes did continue to evince some self-doubt (e.g., Zani) or to question the *efficacy of doing research (e.g., Jason, John).*

Discussion

The results suggest that the differences between the classrooms with respect to the ways the teachers taught the units were rather sizable and apparent, a consequence of the differences in the teachers' goal structures and emphases. However, the differences reported by the six students from each classroom regarding concept development, strategic knowledge gain, and attitudinal growth were more subtle. This suggests that Derson's approach was reasonably successful in helping students develop initial knowledge of a number of anthropologically-based foreground historical concepts, gain strategic knowledge about research practices, and see research itself and themselves as researchers in a positive light. Derson's attempts to integrate language arts strategies and reading practices with the study of history paid good dividends. However, the results also indicate that the teaching and learning practices in Costello's classroom promoted some gains in conceptual and strategic knowledge and in attitudes about research.

Having said this, it is important to observe that students in both classes obtained little in the way of initial understandings of background concepts, and particularly, about strategies for dealing with them when they arose. This is ironic because Derson mentioned that her students were asking her how to resolve discrepancies in the "data" they were researching and collecting (see her comment above), and John, from Costello's class, was troubled by engaging in a research process wherein he lacked effective strategies for understanding what to do when he thought he could not trust his sources. John's resolution: Have someone just give him the facts. This is hardly a sought-after solution in the context of activities designed—at least implicitly—to give students more responsibility for their own learning and stimulate their interests and reading engagement.

Although Lee, et al. (1995) reported that young students have some difficulty with background concepts such as evidence and assertion (or knowledge claims) in history, it would seem that, if young students are asked to engage in a form of historical research (even though it is not the same as the sort historians would pursue), then it would benefit them to develop ways of thinking about the nature of

evidence, evidence-use rules, reliability and validity of sources, and strategies (e.g., how to read texts, assess sources, judge bias) around which they could resolve the issues that these background concepts and the act of researching raise. This idea is tightly bound up in Bruner's (1960) notion of teaching subject matter—history, language arts, and reading in this case—in intellectually honest ways.

In a study of fifth graders, VanSledright and Kelly (in press) found that several of the more able readers were capable of assessing bias in history texts and were beginning to build what Wineburg (1991, 1994) called "event models" to gauge the relative trustworthiness of two conflicting accounts of the Boston Massacre. Because historical data is so slippery, fragmented, and often elusive, event models are constructed and employed by historians when they consult a variety of sources in their research work. According to Wineburg, the experts in reading and researching history he studied used the disparate information they collected about people, events, and choices made to construct different possible versions of how things could have happened historically. With a healthy degree of skepticism, these historians assessed the sources one against another in an effort to hone their event models. They also worked from prior knowledge of the quality of different types of sources, the nature of authors' frames of reference, and the trustworthiness of their claims.

Now fourth graders are not fifth graders nor do they possess the prior knowledge of expert historians. But it does make sense to borrow from the expertise available to assist young learners in moving from novitiate to thoughtful and skilled, especially if these young learners are being asked to engage in activities that require developing conceptual and strategic knowledge. This does not mean that we would expect fourth-grade researchers to display full research expertise at the end of fourth grade. Rather, these students could receive initial opportunities to meet these concepts and strategies and learn how they might work, in the context of their fourth-grade research practice. After all, as Derson and John note, the issues that give rise to the concepts and strategies already are present in and pressing on their teaching-learning environments.

It is encouraging that some fifth graders do have an emerging sense of event models, author bias, and strategies for working with them (VanSledright & Kelly, in press). It would seem that fourth graders might profitably be introduced to these concepts and strategies as well. As a potential result,

students like John might be less quick to fret about what to do with sources that they are unsure about how to trust, preferring instead to be spoon fed "the facts" (whatever those might be) and relinquishing the thin hold they have on the responsibility they exercise for their own learning.

One way to assist students such as John and the ones to which Derson refers would be to construct several lessons around explicitly conflicting historical accounts (e.g., a textbook exposition and a historical fiction narrative treatment on, say, an event covered in a unit to be studied). These might be carefully read by students, perhaps orally in turns. The teacher could facilitate a conversation about the nature of the textual conflicts, asking students to describe which account they thought was more trustworthy and why. This, in turn, would open a doorway onto a variety of background concepts, effectively bringing them into the foreground. The question could be posed: So what do we do with this sort of thing if we encounter it in our research activities? The class could take time and explore possible strategies as solutions. Talk could turn to constructing event models, trying to imagine how the details fit together in the context of the past. The abstract conceptual terminology used in historical circles need not even be described and defined, but the ideas and issues around which they cohere could be the substance of what students learned. These types of lessons might be strategically placed across the school year in social studies units where students were asked to do historical research. Armed with deeper more robust conceptual and strategic understandings, students—even young ones I would think—could learn to become even more engaged readers and effective and seasoned researchers as a result.

Conclusion

The growth in Derson's students' social studies concept knowledge, and especially their strategic knowledge, suggests considerable promise for future efforts to bring reading, language arts, and conceptual domains such as history together in an integrated curriculum. Since each of these subject matters more or less relies on the others for either substance or procedure, integrating them makes sense. Yet, each concept-laden subject matter such as biology, earth science, history, or geography has its own unique and sometimes problematic conceptual and procedural terrain, as we have seen with respect to historical knowledge in this study. Creating educationally robust curricular integrations will require taking these unique aspects of the concept-laden subject matters seriously. Because of the slippery and

indeterminate nature of historical knowledge, its heavy dependence on interpretation, and the "background" conceptual issues to which the former give rise, a reading-language arts-history integration, therefore, would need to proceed differently in the classroom than one involving a discipline with a much tighter concept-generalization-principle-law structure (e.g., plant science) as the central substantive-knowledge domain. Perhaps most importantly, what are referred to here as background concepts, and the unique strategies for dealing with them in history, would need to be foregrounded for students in order to claim that the integration was representing and teaching history in an intellectually honest way. In this regard, Derson's efforts, particularly, are beginning to point in a useful direction, but have some difficult and bumpy curricular and pedagogical landscapes yet to traverse.

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Figure 1. Foreground Concepts by Class and Interview Protocol Question

Concepts	Questions: First Protocol (directly after the unit)
	Derson's Class
Culture Customs Cultural Institutions Daily Life Historical Context	1.1. You just finished a unit on Native Americans in Ms. Derson's class. Tell me everything you can about what you learned about them. 1.2. Imagine you were a Nanticoke or a Potomack Indian. What would daily life be like for you?
Cultural Difference Cultural Change Historical Context	1.3. How are Native Americans similar to us today? How are they different?
Cultural Change Causation	1.4. We don't often see Native Americans around here anymore. What happened to them do you think?
	Costello's Class
Culture Customs Cultural Institutions Daily Life Historical Context	1.1. You just finished a unit on Native Americans in Ms. Costello's class. Tell me everything you can about what you learned about them.
Cultural Change Causation	1.2. We don't often see Native Americans around here anymore. What happened to them do you think?

Figure 2. Background Concepts by Interview Protocol Question

Concepts	Questions: First Protocol (directly after the unit)
	Both Classes
Validity Reliability Evidence Interpretation	1.11 Do you think that it's possible to have two sets of information about the same thing that don't agree and have both of them still be accurate explanations? If yes, how's that possible? If no, why not?
Validity Interpretation	1.12 When you are doing research and reading to get information from a book, how do you know if the author is giving you facts or giving you an opinion?
Nature of Sources	1.13 Where do authors of the history books you read get their information from?

(note: Questions 1.11 - 1.13 were numbered 1.8 - 1.10 respectively for Costello's students.)

Concepts	Questions: Second Protocol (at year's end)
	Both Classes
Validity Reliability Evidence	2.6 How could you tell if you could trust what a source was telling you?

Figure 3. Strategic Knowledge (Research Procedures) by Categories and Interview Protocol Questions

Strategies	Questions: First Protocol (directly after the unit)
	Both Classes
General Knowledge	1.5 You did research on Native Americans during the unit. Tell me what you know about doing research.
Locating Information Sourcing Texts	1.6 If you still wanted to learn more about these Native Americans, where would you go to find information? Why would you look there?
Using Text Aids	1.7 How would you know where to look in this/these source/s?
Dealing with Conflicting Sources/Information	1.10 What if one source or book you looked at said one thing about the Indians in Maryland and another book said something else about the same group, but the ideas were different from each other? What would you do then?

(note: Questions 1.5, 1.6, and 1.7 were numbered 1.3a, 1.3b, and 1.4 respectively for Costello's students. Question 1.10 was numbered 1.7 in Costello's class.)

Strategies	Questions: Second Protocol (at year's end)
	Both Classes
General Knowledge Locating Information Using Text Aids	2.4 Explain to me how you would go about researching a topic in social studies.
Conflicting Sources	2.5 What did you do when you were doing research on a social studies topic and one source you were reading said one thing and another source said something else?

Figure 4. Attitudes About and Interest In Research by Categories and Questions

Categories	Questions: First Protocol (directly after the unit)
	Both Classes
Importance	1.8 Do you think it is important to be able to do research on a topic like Native Americans? Why or why not?
Purposes	1.9 What do you think is the point of doing research? (Derson's class only: How about your Reflection Journal?)*

* The Reflection Journal used in Derson's class is explained below.

(Note: Questions 1.8 and 1.9 were numbered 1.5 and 1.6 respectively for Costello's students.)

Categories	Questions: Second Protocol (at year's end)
	Both Classes
Purpose Importance	2.1 You did a lot of research in social studies this year. What do you think the purpose was for doing this research?
Attitude	2.2 Did you like doing research in social studies?
View of Self	2.3 What do you think of yourself as a researcher?

Table 1. Foreground Concepts: Student Interview Responses by Class and Type

Derson's Class (n=6)

Concepts	Protocol Questions (see Figure 1)	Type of Response			
		Strong	Moderate	Weak	Absent
Culture Customs Institutions Daily Life Context	1.1 and 1.2	3 1	3 5	0 0	0 0
Cultural Difference Cultural Change	1.3	0	5	1	0
Change Causation	1.4	1	3	2	0
TOTALS		5 (21%)	16 (67%)	3 (12%)	0 --

Costello's Class (n=6)

Concepts	Protocol Questions (see Figure 1)	Type of Response			
		Strong	Moderate	Weak	Absent
Culture Customs Institutions Daily Life Context	1.1	4	2	0	0
Change Causation	1.2	0	5	1	0
TOTALS		4 (33%)	7 (59%)	1 (8%)	0 --

Table 2. Background Concepts: Student Interview Responses by Class and Type

Derson's Class (n=6)

Concepts	Protocol Questions (see Figure 2)	Type of Response			
		Strong	Moderate	Weak	Absent
Validity Reliability Evidence Interpretation	1.11	0	1	4	1
Validity Interpretation	1.12	0	2	3	1
Nature of Sources	1.13	0	3	3	0
Validity Reliability Evidence	2.6	0	1	4	1
TOTALS		0 --	7 (29%)	14 (58%)	3 (13%)

Costello's Class (n=6)

Concepts	Protocol Questions (see Figure 2)	Type of Response			
		Strong	Moderate	Weak	Absent
Validity Reliability Evidence Interpretation	1.8	0	1	5	0
Validity Interpretation	1.9	0	2	2	2
Nature of Sources	1.10	0	4	2	0
Validity Reliability Evidence	2.6*	0	1	3	1
TOTALS		0 --	8 (35%)	12 (52%)	3 (13%)

* One of Costello's students, Gina, moved away mid year, reducing the interviewees to five.

Table 3. Strategic (Research Procedural) Knowledge: Student Interview Responses by Class and Type

Derson's Class (n=6)

Strategies	Protocol Questions (see Figure 3)	Type of Response			
		Strong	Moderate	Weak	Absent
General Knowledge	1.5	0	2	4	0
Locating Information Sourcing Texts	1.6	0	4	2	0
Using Text Aids	1.7	1	5	0	0
Conflicting Information	1.10	0	0	6	0
General Knowledge Locating Information Using Text Aids	2.4	0	6	0	0
Conflicting Information	2.5	0	1	5	0
TOTALS		1 (8%)	18 (50%)	17 (42%)	0 --

Costello's Class (n=6)

Strategies	Protocol Questions (see Figure 3)	Type of Response			
		Strong	Moderate	Weak	Absent
General Knowledge	1.3a	0	3	3	0
Locating Information Sourcing Texts	1.3b	0	2	4	0
Using Text Aids	1.4	1	2	3	0
Conflicting Information	1.7	0	2	4	0
General Knowledge Locating Information Using Text Aids	2.4*	0	1	4	0
Conflicting Information	2.5*	0	0	5	0
TOTALS		1 (3%)	10 (29%)	23 (68%)	0 --

* One student, Gina, had left mid year, reducing the interviewees to five.